

Response to Intervention for Social Behavior

Challenges and Opportunities

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The goal of the three-tiered response-to-intervention (RtI) model is to catch students who are at risk early and to provide an appropriate level of intervention. Although RtI has been recommended for academic and social behavior, to date there has been little discussion about the differences associated with implementing RtI across these domains. The purpose of this article is to compare similarities and differences in RtI for academic and social behavior. In addition, some of the primary challenges associated with the implementation of RtI for social behavior are discussed. Examples of how RtI has been implemented with social behavior are provided along with recommendations for future research.

Keywords: *behavioral assessment; behavioral interventions, social behavior assessment; behavioral management and modification*

The overall goal of the three-tiered response-to-intervention (RtI) model is to catch students who are at risk for learning disabilities early and provide an appropriate level of preventative intervention (Batsche et al., 2005). Experts in the field of positive behavior support recommend a similar three-tiered model of behavior support to prevent and intervene with problem behavior (Sugai & Horner, 2002; Walker et al., 1996). Although the three-tiered RtI logic seems to apply to academic and behavioral prevention and intervention, RtI is most commonly mentioned in the context of academic supports and the prevention of learning disabilities (Batsche et al., 2005; L. S. Fuchs, 2004; Gresham, 2001). The purpose of this article is to (a) discuss key features of RtI, (b) detail the commonalities and differences between RtI-based academic support structures and RtI-based social behavior support structures, (c) discuss challenges of implementing RtI with social behavior, and (d) provide examples of applications of the RtI logic to social behavior.

Key Features of RtI

RtI is most commonly seen as an alternative means to determine eligibility for special education services to address a learning disability (D. Fuchs, Mock, Morgan, & Young, 2003; Gresham, 2001). Assessing the presence of a

learning disability and eligibility for special education used to be based on a discrepancy between cognitive level (IQ) and academic achievement. The advent of RtI allowed school personnel to assess special education eligibility for a learning disability based on lack of "response to intervention." The reauthorization of the Individuals with Disabilities Act (Individuals with Disabilities Education Improvement Act [IDEIA], 2004) encouraged schools to use the RtI approach to this end, and several sites across the country have documented that implementing RtI models leads to a reduction in the numbers of students who qualify for special education for learning disabilities (Kame'enui, Good, & Harn, 2005; Vaughn, Linan-Thompson, & Hickman, 2003). More recently, RtI has taken on broader utility as one approach to determining appropriate levels of student support regardless of special education needs (Brown-Chidsey & Steege, 2005; Gresham, 2004).

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Table 1
Response to Intervention (RtI) for Academic and Social Behavior in Action

| Features of RtI (Batsche et al., 2005) | Academic Behavior (i.e., reading) | Social Behavior |
|---|---|---|
| Multitiered model of service delivery | Tier 1—evidence-based core reading curriculum Tier 2—standardized protocol intervention Tier 3—intensive (i.e., Title I or special education) | Tier 1—schoolwide discipline plan Tier 2—standardized protocol intervention Tier 3—individualized behavior support plans |
| Use of problem-solving method to make decisions about appropriate levels of intervention | Problem-solving model, school-based teams | Problem-solving model, behavior support team |
| Use of evidence-based interventions | Tier 1 (e.g., Core reading program) Tier 2 (e.g., Read Naturally) Tier 3 (e.g., Kaleidoscope Levels A and B from SRA) | Tier 1—schoolwide discipline plan Tier 2 (e.g., Behavior Education Program, First Step to Success, Check & Connect) Tier 3—functional behavioral assessments and behavior support plans |
| Student progress monitoring to inform instruction and intervention | <i>Dynamic Indicators of Basic Early Literacy Skills</i> (DIBELS)/curriculum-based measurement (CBM) data | Percentage of points on daily progress reports Office discipline referrals Direct observation |
| Use of data to make decisions regarding student response to intervention | Risk status based on DIBELS data Low risk Some risk At risk | No research-based goals |
| Use of assessment for three different reasons—screening, diagnostic, and progress monitoring. | Screening-DIBELS Diagnostic-diagnostic reading assessment Monitoring-DIBELS | Screening-office discipline referrals, <i>Systematic Screening for Behavior Disorders</i> Diagnostic-functional behavioral assessments Progress monitoring-daily progress report data |

The National Association of State Directors of Special Education (NASDE; Batsche et al., 2005) recently published a manual outlining the core components that should be in place to effectively implement an RtI model. These core components include (a) use of a multi-tier model of service delivery; (b) use of a problem-solving method to make decisions about appropriate levels of intervention; (c) use of evidence-based interventions; (d) student progress monitoring to inform instruction and intervention; (e) use of data to make decisions regarding student response to intervention; and (f) use of assessment for three different reasons—screening, diagnostic, and progress monitoring. Table 1 provides a summary of these key features and examples of how they could be applied to academic and social behavior. What follows is an explanation of the key features.

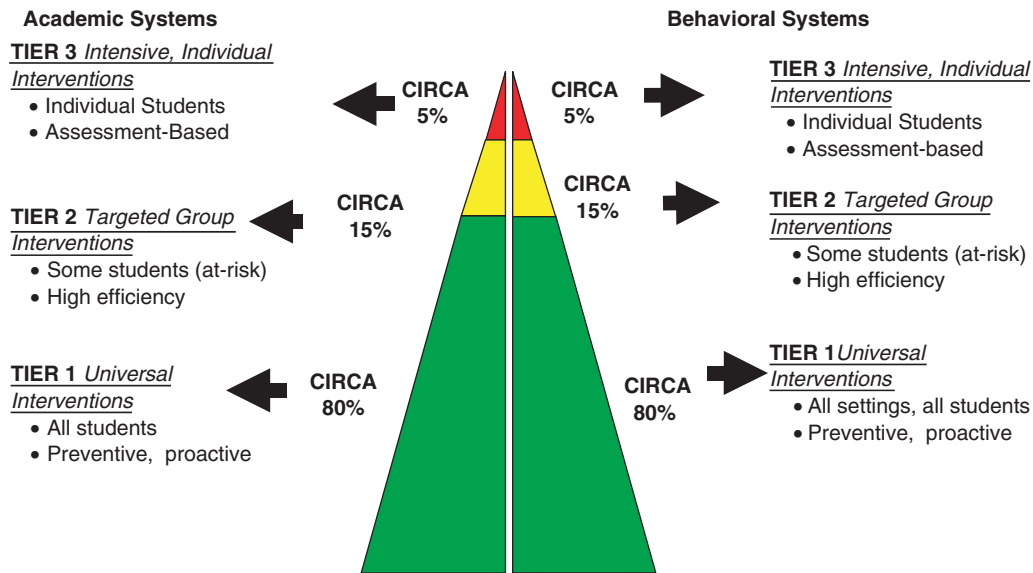
Implementation of a three-tiered system of academic support is the crux of the RtI model (Tilly, Reschly, & Grimes, 1999). Figure 1 illustrates an integrated three-tiered support model and suggests that this three-tiered approach can be similarly applied to academic and social behavior supports (Sugai, Horner, & Gresham, 2002). The recommended sequencing of increasingly intense services is similar across academic and behavioral support, as is the estimated percentage of students responding to each intensity level (Batsche et al., 2005; Good, Wallin, Simmons,

Kame'enui, & Kaminski, 2002; Horner, 2006; Sugai et al., 2002; Walker et al., 1996). Figure 1 suggests that, on average, Tier 1 academic and behavioral interventions address the needs of approximately 80% of a school's student population; approximately 15% of students are at risk of school failure and need additional Tier 2 academic and behavioral support, and approximately 5% of students need intensive individualized Tier 3 interventions.

Which level of support is indicated for which student is determined through ongoing data collection by assessing and monitoring the student's responsiveness to the academic curricula and behavioral support provided. Generally, Tier 1 academic interventions consist of the standard core curriculum designed for students to meet state-mandated performance standards. Examples of research-based core reading curricula include Open Court and Harcourt Trophies.

Tier 2 academic interventions often consist of more intense instruction in small-group settings and more instructional minutes allocated to the content area in which a student has difficulty. Tier 2 academic interventions are often delivered following a standardized protocol (Batsche et al., 2005; Christ, Burns, & Ysseldyke, 2005). A standardized protocol intervention is an evidenced-based intervention that is packaged and can be delivered

Figure 1
Three-Tier Model of School Supports



Source: Batsche et al. (2005) and Sugai, Horner, and Gresham (2002).

systematically, often using scripts, to a group of students. Examples of Tier 2 reading interventions and programs include Read Naturally (Hasbrouck, Ihnot, & Rogers, 1999), which is a repeated reading intervention implemented to improve fluency, and Ladders to Literacy (O'Connor, Notari-Syverson, & Vadasy, 1998), which provides instructional strategies for kindergarten students struggling with phonemic awareness.

Tier 3 academic interventions involve lesson plans designed to address an individual student's specific learning needs. An example of a Tier 3 reading intervention for kindergarten and first-grade students is Scott Foresman's Early Reading Intervention (Kame'enui & Simmons, 2004), which specifically targets deficits in phonemic awareness and phonics. More examples of Tier 1, 2, and 3 reading interventions can be found on the Oregon Reading First Web site (www.oregonreadingfirst.uoregon.edu) and the Florida Center for Reading Research Web site (www.fcrr.org). Although there is not currently agreement in the field as to what each tier involves (i.e., some researchers and educators indicate that Tier 3 involves implementation of special education services, whereas others state that Tier 3 involves more intensive instructional approaches that are implemented prior to a special education referral), there is an assumption that as students fail to respond to intervention at each tier, more time, resources, and efforts are used to prevent and/or remediate academic difficulties (Harn, Kame'enui, & Simmons, 2007; Kame'enui et al., 2005).

Tier 1 behavioral interventions consist of clearly defined schoolwide behavioral expectations that are

taught to all students at least once a year and a schoolwide discipline plan that defines procedures for regular acknowledgment of appropriate behavior and consistently applied consequences for inappropriate behavior (Sugai & Horner, 2002). Tier 2 behavioral interventions consist of existing additional support programs that can accommodate about 15% of a school's population and that require minimal staff time to implement. Examples of Tier 2 behavioral interventions include Check & Connect (Sinclair, Christenson, Evelo, & Hurley, 1998), which is a dropout prevention program; the Behavior Education Program (Crone, Horner, & Hawken, 2004), which is a modified check-in, check-out program; and First Step to Success (Walker, 1998). Tier 3 behavioral interventions frequently involve behavior support plans (BSPs) based on functional assessment data and are designed to meet the behavioral needs of individual students (Crone & Horner, 2003; O'Neill et al., 1997; Sugai, Lewis-Palmer, & Hagan, 1998; Umbreit, Lane, Ferrero, & Liaupsin, 2006).

Batsche et al. (2005) recommended a problem-solving process to determine appropriate levels of academic support. That is, if students are not responding to Tier 2 academic support, teams should use a problem-solving process to determine the most appropriate level and type of intervention. In many schools, the problem-solving process occurs in a team format; this may be a teacher assistance team or a student study team. The process of determining appropriate behavioral support is similar. Behavior support teams or school climate teams may engage in a problem-solving process to identify an

appropriate intervention. It should be noted that in many schools the teams that address problem behavior are not the same teams that address academic difficulties (Crone, Hawken, & Bergstrom, 2007).

Schools interested in implementing an RtI model should use evidenced-based interventions (Batsche et al., 2005; Brown-Chidsey & Steege, 2005; Gresham, 2004). Some examples of evidenced-based reading and behavioral interventions at each tier are presented in Table 1. There are many resources for determining what is evidence based. In 2003, a taskforce established by the Council for Exceptional Children (CEC) identified research methodologies that meet criteria for scientific evidence (Odom et al., 2005). The taskforce findings, as well as general guidelines for identifying evidence-based practice, are available through the CEC Division for Research Web site (www.cecdr.org). In addition, the What Works Clearinghouse (www.whatworks.ed.gov) and the user guide to identifying evidence-based practices compiled by the U.S. Department of Education (2003) also offer useful guidelines. Although the What Works Clearinghouse has a plethora of evidence-based academic interventions, practitioners and researchers should note that in its current form the usefulness in identifying evidence-based interventions for social behavior may be limited.

Once evidenced-based interventions are implemented, student progress should be monitored frequently to (a) determine whether the intervention is working and (b) help inform instruction. How progress is monitored will look different depending on whether it is an academic or social skill; issues related to progress monitoring are addressed later.

The final key feature of an RtI model is assessment for three different purposes—screening, diagnostic, and progress monitoring (Batsche et al., 2005). Screening assessment is used to determine which students need additional support. Following screening, interventions are implemented with students who are identified as at risk, and progress is monitored to determine if the intervention is working. Typically, following a lack of response to the initial intervention, diagnostic assessments are completed to determine specific academic and social skill deficits and instructional procedures to address those deficits.

Although the three-tiered model presented by NASDE (Batsche et al., 2005) conceptually includes both academic and behavior supports (see Figure 1), the majority of the examples provided in the manual relate to academic behavior and the prevention of learning disabilities. No guidelines were provided as to how RtI can be implemented to promote students' behavioral success in school.

Applying the RtI Model to Social Behavior

The success of the RtI model in preventing learning disabilities has led researchers to pursue the same logic for responding to social behavior problems to facilitate timely delivery of appropriate behavioral support to students (Gresham, 2004, 2005). In general, a prolonged waiting period before receiving any form of additional supports is similarly problematic for students who lack prosocial behavior as it is for students with learning difficulties; furthermore, the slow delivery of needed supports is a typical pattern observed in current practice (Gresham, 1991, 2005). In addition to timely delivery, needed support should be based on assessment data in order to be maximally effective. Many assessments used to determine eligibility for special education under the category of emotional disturbance, such as behavior rating scales, are not useful for designing effective interventions (Crone & Horner, 2003; O'Neill et al., 1997; Repp & Horner, 1999). Gresham (1991, 2004) argued that emotional-behavior disorders should be operationalized as a lack of response to systematic behavioral interventions. In essence, if behavioral interventions are implemented with fidelity and no change occurs between baseline and intervention, the student needs more intensive support and might even qualify for special education services. Gresham (1991, 2004, 2005) skillfully outlined the utility of RtI for making special education eligibility decisions regarding supports for social behavior; to make broader use of the RtI model, considerations of how to utilize RtI to provide students with adequate support prior to special education eligibility might be useful. The next section addresses this topic along with the commonalities and differences between RtI for academic and social behavior.

Commonalities and Differences Between RtI for Academic and Behavioral Supports

The three-tiered RtI model of school supports from NASDE (Batsche et al., 2005; see also McIntosh, Chard, Boland, & Horner, 2006; Sugai & Horner, 2002) recommended a seamless blending of academic and behavioral supports into a comprehensive service delivery model. Although the conceptual logic and overall applications of academic and behavioral supports show clear parallels, their practical implementations suggest important differences. Most important, measuring students' responsiveness and establishing criteria for transitioning between levels of support tend to be different for academic and behavioral interventions.

Measuring RtI

Academic performance standards are clearly defined by state or federally mandated benchmarks and are usually expressed in a manner that implies both the mode of measurement and the metric. For example, if the standard to be met is stated as “student reads 100 words correct per minute during oral reading,” students who obtain the target score on an oral reading fluency measure will be successful readers. Students whose reading ability falls below the target score will need additional support. How much additional support is necessary can be assessed by comparing students’ scores to research-based cut scores (cf. Good et al., 2002). While the student receives additional support, frequent progress monitoring of his or her performance is likely to determine when increases or decreases in additional support are necessary. Existing research also provides guidance on how to assess a student’s response to an academic intervention. Student responsiveness can be operationalized as final performance status or growth rate and assessed in relation to a benchmark, to a criterion derived from a normative sample, to the type of intervention, and to time of measurement (D. Fuchs et al., 2003).

Behavioral performance is locally and contextually defined by the values of the school’s stakeholders, tolerance levels of school personnel, and overall school culture (Gresham, 2004; Jones, Caravaca, Cizek, Horner, & Vincent, 2006). Many schools collect office discipline referrals (ODRs) to assess their overall school culture and students’ behavioral support needs. Although variability in ODR data across teachers remains a concern (Nelson, Gonzales, Epstein, & Benner, 2003), ODRs have been shown to be a valid and reliable index of a school’s behavioral status as long as definitions of inappropriate behaviors are operational, exhaustive, and mutually exclusive (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004; Nelson, Benner, Reid, Epstein, & Currin, 2002). One recommended guideline for interpreting ODR data is that students who receive 0 to 1 ODR per year do not need behavioral support beyond universal schoolwide discipline; students who receive 2 to 5 ODRs per year are commonly recommended for Tier 2 interventions, whereas students with 6 or more ODRs per year might require Tier 3 or intensive individualized BSPs (Horner, Sugai, Todd, Lewis-Palmer, 2005; McIntosh et al., 2006; Sugai et al., 2000).

Transitioning From Tier 1 to Tier 2 Support

In an RtI model for reading instruction, the focus is to catch students most at risk for reading disabilities early through regular screening. Students are first identified as having reading difficulties via a schoolwide screening process, usually using the *Dynamic Indicators of Basic*

Early Literacy Skills (DIBELS; Batsche et al., 2005). DIBELS are 1-minute, fluency-based measures that are designed not to comprehensively measure reading performance but rather to indicate a student’s overall early literacy health (Good & Kaminski, 2001). If a student does not reach an established DIBELS criterion (see Good et al., 2002), he or she is likely to require additional reading instruction in the form of a Tier 2 intervention. It is at this stage that students often receive a standardized protocol intervention as the first step in implementing Tier 2 interventions.

In an RtI model of behavioral support, there are several strategies that can be used to determine which students are not responding to Tier 1 behavioral interventions. The number of ODRs a student receives within a given time frame provides one indicator of that student’s overall behavioral performance. Although not a perfect metric, ODRs are easily collected and summarized by schools—particularly with Web-based systems such as the School-Wide Information System (SWIS; May et al., 2000). Additional research is needed to determine maximally reliable and valid indicators that are as efficiently gathered and summarized as ODR data of students who are not responding to Tier 1 supports. Although direct observation would be a preferred method to evaluate students’ responses to intervention (Gresham, 2005), it is neither efficient nor cost-effective to conduct direct observations on the estimated 20% of the student population that is at risk for poor behavioral outcomes.

Other indicators that have been used to identify students who are at risk for poor behavioral outcomes include student attendance, tardies, and poor academic performance (Kingery & Walker, 2002; Tobin & Sugai, 1996; Walker & Severson, 1992; Walker & Shinn, 2002).

Some schools implement more systematic screening processes to identify students early who are at risk for serious behavior disorders. The *Systematic Screening for Behavior Disorders* (SSBD) rating system (Walker & Severson, 1992), for example, allows identification of students who may benefit from Tier 2 behavior interventions (e.g., Cheney, Blum, & Walker, 2004). The SSBD involves a multiple-stage system implemented schoolwide to identify students at risk. The first stage involves teachers identifying students in their classrooms who are at high risk for externalizing and internalizing disorders. In the second stage, teachers complete behavior rating scales on the identified students to determine if further assessment should occur. The third stage involves direct observation in the classroom for students who pass through the first and second stages and who appear to be most at risk.

Recent research indicates that screening tools such as the SSBD and other teacher nomination strategies might be more accurate mechanisms than ODR counts in identifying

students who are at risk, particularly students who display internalizing (i.e., anxiety, depression) behaviors (Blum, 2006; Kincaid, 2007). Overall, the field of behavior support offers relatively efficient ways for schools to gather and analyze data to determine which students are not responding to Tier 1 supports and which may benefit from Tier 2 interventions.

Transitioning From Tier 2 to Tier 3 Support

In an RtI model for reading instruction, once students have been identified as needing Tier 2 support, an intervention, usually a standardized-protocol intervention, is implemented for a specified period of time (e.g., 6 weeks or 12 weeks), and progress is measured formatively, typically using DIBELS data or some other type of Curriculum-Based Measurement (CBM; Batsche et al., 2005; Gresham, 2003; Shinn, 1989; Vaughn et al., 2003). If the intervention fails to improve student progress within the specified period of time, a problem-solving team or student study team helps determine (a) whether the Tier 2 intervention can be modified to support the student or (b) whether a Tier 3, more intensive, individualized intervention is more appropriate. These decisions are typically made using progress-monitoring DIBELS data; in addition, diagnostic assessments may be conducted to further determine what skills the student has and does not have in order to more effectively plan interventions (Batsche et al., 2005). Although the widespread use of the RtI model for academic instruction is relatively new, there are guidelines on how and when students should receive more intensive academic support (e.g., Ham et al., 2007; Kame'enui et al., 2005) and what data can be easily gathered and summarized to make these decisions (i.e., DIBELS or CBM).

In an RtI model for social behavior, the decision rules, the data to be used to determine if Tier 2 interventions are effective, and the procedures for modifying Tier 2 support are less clear. In a study by Fairbanks, Sugai, Guardino, and Lathrop (2007), daily direct observation of problem behavior was used as the behavioral indicator to evaluate the extent to which students were benefiting from a Tier 2 intervention (i.e., check in, check out). As mentioned above, a primary concern is that given time, money, and resources, schools are unable to collect these types of data with fidelity for multiple students to determine if a Tier 2 intervention is effective. A more viable alternative to measuring student progress to behavioral interventions involves using daily progress reports (DPRs). Students are given a rating (e.g., 0, 1, 2 or 1, 2, 3, 4) on predetermined behavioral goals throughout the school day. At the end of the day, the percentage of points is calculated and progress over time is measured to determine if the student is meeting his or her

Figure 2
Daily Progress Report

Adapted from Crone, Horner & Hawken (2004)

Daily Progress Report

Name: _____ Date: _____

Rating Scale: 3 = Good day 2 = So-So 1 = Will try harder tomorrow

GOALS:

| | HR | 1st | 2nd | 3rd | 4th | L | 5th | 6th |
|--|-------|-------|-------|-------|-------|-------|-------|-------|
| BE RESPECTFUL <i>List Behavior:</i> | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 |
| BE RESPONSIBLE <i>List Behavior:</i> | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 |
| BE PREPARED <i>List Behavior:</i> | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 | 1 2 3 |

Teacher Comments: I really like how...

Parent Signature(s) and Comments:

Points Possible: _____

Points Received: _____

% of Points: _____

Source: Crone, Horner, and Hawken (2004).

goal. Preliminary research indicates that points earned on DPRs can serve as indicators of the effectiveness of behavior interventions and are easily gathered, summarized, and analyzed by school staff (Chafouleas, Christ, Riley-Tillman, Briesch, & Chanese, in press; Chafouleas, Riley-Tillman, Sassu, LaFrance, & Patwa, 2007; Cheney, Flower, & Templeton, in press; Stage, Cheney, Flower, Templeton, Waugh, 2008). It should be noted that no research-based guideline or cutoff score (e.g., 80% of points) has been empirically validated as to what constitutes adequate student response to intervention, and future research will need to be conducted to establish guidelines for schools using percentage of points as indicators.

Although percentage of points on DPRs are used for some Tier 2 behavioral interventions (e.g., the Behavior Education Program by Crone et al., 2004), Kincaid (2007) argues that DPRs can be used across Tier 2 interventions to provide a common metric for comparison purposes. An example of a generic DPR can be seen in Figure 2.

In the DPR included in Figure 2, the schoolwide behavioral expectations are listed along the left column, and each student problem behavior could be further defined under the "list behavior" section. In addition, in its current form, the periods of the day are listed across the top, but this can be changed depending on the needs of the specific interventions. A pullout social skills intervention may need the time periods broken down into 5-minute increments. If a student is participating in a 1-hour after-school mentoring program, the time periods could be broken down into 10- or 15-minute increments. The key benefit to using the DPR across Tier 2 interventions is that percentage of points could be used as a common metric and allow for comparison of effectiveness across interventions. To deliver behavior support with an RtI model, schools need efficient ways to

determine the effectiveness of Tier 2 behavior interventions, and percentage of points on DPRs appears to be a viable indicator to measure responsiveness to intervention (Hawken, 2007). When students are not responding to Tier 2 behavioral interventions, either the intervention needs to be modified or teams need to consider increasing the intensity of support by implementing Tier 3 interventions. The following section highlights some of the practices and challenges associated with delivering behavioral support to students who do not respond to Tier 2 interventions.

Challenges Related to Implementing RtI for Social Behavior at the Tier 3 Level

It is generally accepted in the field of positive behavior support that Tier 3 interventions involve conducting functional behavioral assessments (FBAs) and implementing individualized BSPs based on FBA outcomes (Sugai & Horner, 2002). The purpose of conducting an FBA is to determine the “function” or reason why the student continues to engage in problem behavior (i.e., escape a difficult task or access peer attention, teacher attention, or an object or activity). BSPs involve actively teaching students prosocial ways to escape what they find aversive and access what they desire (e.g., more appropriate ways to gain teacher attention) as well as rearranging the environment to support or encourage appropriate behavior and ignore problem behavior (Horner, 1994; O'Neill et al., 1997; Sugai et al., 1998). Conducting FBAs typically involves the following steps: (a) reviewing student records; (b) interviewing teachers, parents, and, sometimes, students (depending on student age and maturity level); (c) conducting direct observations to examine why and under what conditions the behavior occurs; and (d) using this information to develop a hypothesis as to why the student continues to engage in problem behavior (Crone & Horner, 2003; O'Neill et al., 1997).

Traditionally, FBA has been a process conducted by an expert or a single person who may or may not be skilled in the procedure, such as a school psychologist (Scott et al., 2005). More recently, a team-based approach to conducting the FBA has been recommended (i.e., Crone et al., 2007). Researchers agree that for the BSP to be maximally effective, the team should be composed of an expert in behavior analysis and support to assure the plan's technical adequacy as well as members familiar with the school culture and resources to assure its contextual fit. A technically sound and contextually appropriate BSP has a high likelihood of being implemented with fidelity and achieving intended outcomes (Benazzi, Horner, & Good, 2006; Scott et al., 2005; Van Acker, Boreson, Gable, & Potterton, 2005).

Results from studies focused on the effectiveness of FBA-BSP procedures are promising. For example, Heckaman, Conroy, Fox, and Chait (2000) reviewed the functional assessment literature with a focus on students with mild disabilities and behavior disorders. The authors reported that of the 22 studies reviewed, 18 demonstrated dramatic reductions in problem behavior and/or improvements in academic or prosocial behavior. Other researchers have shown that interventions that are not function based may inadvertently reinforce and thereby increase the behavior targeted for reduction (Ingram, Lewis-Palmer, & Sugai, 2005; Newcomer & Lewis, 2004).

Although an effective procedure for reducing problem behavior, conducting an FBA and developing a BSP can be time consuming. For example, one study reported that implementing FBA-BSP procedures involved 10 to 23 hours of consultant or behavior specialist time per student (Schill, Kratochwill, & Elliott, 1998). This documentation of time required to implement FBA procedures did not take into account the time required of the teacher and other school personnel who were involved in planning and implementing the intervention. Given the time and resources required to implement the FBA-BSP process, how can these procedures efficiently be implemented for the estimated 5% of students who need Tier 3 behavioral support? In a school with 800 students, this would translate to up to 40 students needing this intensive support and a time commitment that would be unmanageable for most schools.

Although it is recommended best practice to conduct FBAs and implement BSPs with students who require Tier 3 support, schools continue to struggle with their ability to build capacity in implementing this level of support without the use of outside experts (Van Acker et al., 2005). After the reauthorization of the Individuals with Disabilities Education Act was amended in 1997, there was an increased focus on conducting FBAs in schools. The Individuals with Disabilities Act called for implementation of FBA and positive behavior support for students with disabilities who were at risk for a change in placement. Although the increased focus on conducting FBAs in schools was positive, there was little research available on how to train school personnel on the effective use of FBA (Gresham, 2003; Quinn et al., 2001). The most recent reauthorization of the act—the IDEIA—maintains and extends this emphasis on implementing FBA and positive behavior support for students whose behavior interferes with their own educational progress or that of other students.

A series of studies has indicated a clear need for inservice training in the use of FBA by teachers and other school staff (Doggett, Edwards, Moore, Tingstrom, & Wilczynski, 2001; Ervin et al., 2001; Lago-Delello, 1998;

Nelson, Roberts, Rutherford, Mathur, & Aaroe, 1999; Wilson, Gutkin, Hagen, & Oats, 1998). In a review of studies of FBA in schools, Ervin and colleagues showed that FBA was typically conducted by researchers or other outside professionals versus site-based school personnel. These same outside individuals often developed and/or implemented the interventions as well (Ervin et al., 2001). In a related study of general education teachers, Wilson and colleagues found that 94% were “haphazard” about data collection. These same teachers had little understanding of how to generate, implement, and assess behavioral interventions in their classrooms (Wilson et al., 1998). These studies suggest that developing school-based capacity in research-based FBA–BSP procedures is critical for effective and efficient delivery of Tier 3 behavioral support in an RtI model. A recent study evaluating the effectiveness of FBA–BSP training with 10 school-based behavior teams highlighted the difficulty in building capacity for school personnel to effectively implement Tier 3 behavior supports (Crone et al., 2007). Across a 2-year period, the teams received both in-service training and follow-up coaching on how to gather FBA data (record review, interviews, observations) and create and implement BSPs. Results indicated that the teams were able to gather FBA data but had difficulty developing BSPs based on those assessment data. This difficulty in developing a BSP using FBA information has been confirmed by other researchers (Murdock, O’Neill, & Cunningham, 2005).

In reviewing FBAs and BSPs developed by 71 individualized-education-program school teams, Van Acker and colleagues (2005) found numerous omissions in the FBAs and deficits in the plans. Of particular concern was that only 25% of the plans directly used the information from the FBA. In some cases, although the teams had performed an FBA, the plans developed by the school teams used mainly reactive and aversive strategies to reduce problem behaviors. Some interventions were clearly contraindicated by the assessment, such as suspension for a student who was skipping school (Van Acker et al., 2005).

This body of research suggests that, although conducting FBAs and implementing BSPs are recommended components of effective Tier 3 behavior support, schools find it difficult to implement this level of support. Due to the time- and resource-intensive nature of the Tier 3 FBA–BSP process, these procedures should only be used with the students who are engaging in the most severe problem behaviors and who fail to respond to Tier 2 basic and modified interventions. In essence, if schools are to implement an RtI model for social behavior, they will need efficient and effective ways to modify or intensify Tier 2 interventions for students who are not responding before attempting more costly Tier 3 supports.

Potential alternative approaches to resource-intensive FBA and BSP development and implementation are systems of care or wraparound processes (Duchnowsky & Kutash, 2005; Eber, Sugai, Smith, & Scott, 2002). These processes do not rely exclusively on school-based expertise and service delivery capacity; they emphasize coordination of services from multiple agencies to deliver needed support to a student and his or her family. This coordination might give access to expertise and resources a school is not able to provide directly.

Examples of Researchers Applying RtI for Social Behavior

Although applying RtI to social behavior is relatively new in the research literature, what follows are a few examples of how this model can be implemented. An example of applying RtI to the delivery of social behavior supports in a general education setting is summarized in a study by Fairbanks and colleagues (2007). The authors used the RtI logic to design an appropriate intervention for a group of second-grade students who were engaging in problem behavior. The school where the study was conducted had a Tier 1 universal system of behavior support in place, which involved implementing a schoolwide discipline plan. Students who were not responding to this level of intervention were placed on a Tier 2, or secondary-level, support, which was a check-in, check-out intervention (also called the Behavior Education Program; Crone et al., 2004). This Tier 2 intervention provided students with additional feedback on their behavior and more frequent reinforcement for appropriate behavior.

Of the 10 students who received the Tier 2 intervention, 6 did not demonstrate increases in appropriate behavior. FBAs were conducted and intensive interventions were designed to meet those students’ specific needs. A multiple baseline-across-students design was used to evaluate the effectiveness of the intervention. Of the students who received Tier 3 interventions (i.e., individualized BSPs based on functional assessments), all demonstrated reductions in problem behavior and increases in academic engagement following implementation of Tier 3 interventions (Fairbanks et al., 2007).

The important messages of this study are that (a) the RtI logic allowed effective delivery of appropriate levels of behavioral support to students in a general education setting and (b) the delivery of behavioral support at the appropriate intensity level resulted in decreases of inappropriate behavior for all students. These outcomes suggest that the RtI model might facilitate maximally effective delivery of social support for students. It should be noted that, for research purposes, the authors used

direct observation to evaluate response to the Tier 2 and Tier 3 behavioral interventions. Given the inability of most schools to collect these types of data on a daily basis, this metric will likely only be used in research studies to document functional relationships. Fairbanks et al. (2007) concluded, "Although the CICO [check-in, check-out] and function-based interventions in this research are evidence-based, *guidelines are still needed for knowing when to implement and when to increase the intensity of interventions across the three-tiered logic [italics added]*" (p. 308).

Cheney et al. (in press) also applied the RtI logic to social behavior with a goal to evaluate the best metric for quantifying "responsiveness to intervention." The researchers used a randomized control group design to evaluate the extent to which students were benefiting from a Tier 2 intervention called Check, Connect & Expect (CC & E). This intervention combines the features of Check & Connect (Sinclair et al., 1998) with the Behavior Education Program (Crone et al., 2004). In essence, students check in each morning with a paraprofessional, receive feedback on a DPR during prespecified periods of time throughout the day, and check out with the paraprofessional at the end of the day. In addition, the paraprofessional visits students in the classroom, at recess, or at lunch to provide additional support and/or mentoring.

When evaluating responsiveness to intervention, Cheney et al. (in press) used percentage of points on DPRs as the outcome variable and examined the metrics suggested by Gresham (2005) to evaluate change, including absolute change (as measured by comparing mean scores on DPRs prior to and following intervention), percentage of nonoverlapping data points from baseline to intervention phase, percentage change (as measured by days at 75% criterion during baseline vs. intervention), effect size, and reliable change index. The authors determined that although four (absolute change, percentage change, effect size, and reliable change index) of the five metrics were useful in identifying which students responded to the intervention, percentage change was the metric that was the most useful in determining who did and did not make progress, based on the 75% goal criterion. This provides support for the types of outcome variables that can be used to measure responsiveness to social behavior interventions that use DPR-type data.

Suggestions for Future Research and Practice

Although the work by Batsche and colleagues (2005) outlined the critical features of the RtI model for academic

behavior, little information was provided as to how RtI could be applied to social behavior and how these models can and should be combined. Much of the literature that addresses the three-tiered model of support assumes that intensity of services is the same across academic and social behavior, an assumption that might be partially supported by the often-used double triangle suggesting exact parallelism between academic and behavioral support needs and intensity (see Batsche et al., 2005; McIntosh et al., 2006; Sugai et al., 2002). Future research should address the extent to which the intensity and level of services provided for academic behavior mirror the level and intensity provided for social behavior. For example, does Read Naturally (Hasbrouck et al., 1999), a Tier 2 academic reading intervention for students with fluency difficulties, involve the same time, money, and resources as the Behavior Education Program (Crone et al., 2004), a Tier 2 behavior intervention?

Because applying RtI to both academic and social behavior is relatively new in the research literature, future research should address the extent to which school teams have the capacity and knowledge to respond to academic and social behavior data to design interventions and efficiently and continuously evaluate outcomes of those interventions. For example, although formative assessment of academic performance has been well established in the research literature as an effective way to prevent reading failure (e.g., Deno, 1985; Shinn, 1989), it is only recently with the passing of No Child Left Behind and the push for schools to make adequate yearly progress that many schools have started to monitor the progress of all students at least three times a year. Many schools are just becoming fluent with collecting these types of data and still struggle with how to use the data for decision making (Chard & Harn, in press; Simmons et al., 2002). As mentioned previously, in relation to social behavior, schools struggle with how to plan interventions using the diagnostic information gathered during the FBA process (e.g., Crone et al., 2007).

Often, schools use different systems for managing behavior and academic data. For example, more than 12,000 schools across the country use the DIBELS data system (dibels.uoregon.edu) or some other Web-based system and summarize reading performance data. Approximately 3,800 schools across the country are currently using SWIS (May et al., 2000) to organize and summarize ODR data. To facilitate support teams' access to academic and behavior data, future research should address whether a single data system can be used to monitor academic and behavior data and/or how data from multiple systems can be most efficiently combined for use by team members. In addition, the DIBELS data system and SWIS primarily summarize screening and

progress-monitoring types of data; teams, however, will also need efficient ways to organize academic and behavioral diagnostic data.

The research presented on applying RtI to social behavior (Cheney et al., in press; Fairbanks et al., 2007) provides support for both tiered intervention to support students and the metrics that should be used to evaluate intervention effectiveness. Future research should address the extent to which schools can implement with fidelity all three tiers for social behavior and the types of data that are readily used by schools to evaluate behavior interventions. For example, although Cheney et al. found percentage change to be an effective metric for determining response to the CC & E intervention, schools may more easily understand and implement an absolute change (change from baseline to intervention) metric to quantify whether a student is making progress.

Finally, given the fact that schools struggle with implementing Tier 3 function-based behavioral support, future research should focus on strategies to modify Tier 2 interventions to increase their effectiveness for the majority of students who need support beyond Tier 1, so that the number of students requiring resource-intensive Tier 3 interventions is minimized.

Conclusion

Evidence to date suggests that the three-tiered model for behavior support is associated with improved school climate (Horner et al., in press) and improved social and academic student outcomes (Horner et al., 2005; McIntosh et al., 2006). Overall, the model presents an efficient and effective approach for teaching positive and productive behavior. The goal now is to continue developing implementation strategies that allow efficient and effective identification of students who need support beyond Tier 1. The key elements necessary to achieve this goal appear to be (a) collaborating across behavioral and academic student support teams, (b) acknowledging different resource needs to design behavioral and academic support, (c) providing simultaneous access to student behavioral and academic data, (d) developing the school's capacity to interpret behavioral data and design necessary behavioral support, and (e) developing metrics for student success that are easily understandable and that capture social and academic performance.

To work toward establishing these key elements, teachers and administrators might focus on developing systems that allow regular communication between teaching staff and behavioral support specialists, allocate resources to meet the differential needs of academic and behavioral support providers, provide teachers and behavioral support

specialists access to academic and behavioral student data, and build behavioral support capacity through professional development opportunities.

Delivering RtI-based student support will result in socially significant outcomes only if the student's overall social and academic functioning improves. To encourage practitioners to implement RtI-based social support, its measurable behavioral outcomes might have to be linked to improved academic performance, fewer referrals to special education, improved student motivation and attachment to school, or greater teacher satisfaction.

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